

Sierra Bioregion

The Sierra Bioregion is a vast and rugged mountainous area extending some 380 miles along California's eastern side and largely contiguous with Nevada. Named for the Sierra Nevada mountain range it encompasses, the Sierra Bioregion includes magnificent forests, lakes, and rivers that generate much of the state's water supply. It shares spectacular Lake Tahoe with Nevada and features eight national forests, three national parks — Yosemite, Kings Canyon and Sequoia — numerous state parks, historical sites, wilderness, special recreation and national scenic areas, and mountain peaks that beckon climbers, including 14,495-foot Mt. Whitney.

Location, Cities, People

Eighteen counties, or their eastern portions, comprise the Sierra Bioregion: Alpine, Amador, Butte, Calaveras, El Dorado, Fresno, Inyo, Kern, Madera, Mariposa, Mono, Nevada, Placer, Plumas, Sierra, Tulare, Tuolumne, and Yuba. The bioregion extends from the northern edge of the Plumas National Forest south to Tejon Pass in the Tehachapi Mountains about 30 miles southeast of Bakersfield. The northern half of the Sierra Bioregion is bordered by the Nevada state line to the east and the Sacramento Valley floor to the west. The southern half of the Sierra extends westward from the Nevada state line and the western edge of the Bureau of Land Management's California Desert Conservation Area to the San Joaquin Valley floor. California's historic Mother Lode region of 19th century Gold Rush fame is in the Sierra Bioregion.

Scattered throughout the mountains are small cities such as Truckee, Placerville, Quincy, Auburn, South Lake Tahoe, and Bishop, and picturesque mountain hamlets. The colorful history and rustic charm of the Sierra is captured in towns such as Markleeville, Sonora, Angels Camp — site of the annual Celebrated Jumping Frog of Calaveras County immortalized by Mark Twain — Oakhurst, Auberry, Big Creek, and Three Rivers, to name a few.

Tourist Attractions, Industries

The beauty of the Sierra, its serene mountain vistas and next-to-nature hiking, camping, boating, river rafting, fishing, and skiing, make this bioregion one of California's most popular year-around vacation attractions. The Lake Tahoe Basin, shared by California and Nevada, offers water sports and golf in summer, spectacular skiing in winter, and — on the Nevada side (and just outside the bioregion) — casino gambling anytime. High tech has emerged as a significant industry in the Sierra, introducing satellite, on-line, and computer software companies and stimulating entrepreneurial small businesses. This growing segment of the economy joins staples such as hydropower, tourism and recreation. Other industries include logging, cattle ranching, and — in the northern Sierra foothills — apple orchards and wineries.

Climate, Geography

The climate varies with the elevation, offering cold snowy winters and cool summers at higher elevations and rainy winters and mild summers in the foothills. Summers are dry. Snowy winters in the northern Sierra are crucial to California's water supply, which depends heavily upon spring snowmelt to feed the reservoirs of the State Water Project and a portion of the federal Central Valley Project. The projects supply about two-thirds of California's water for drinking, irrigation, and industrial use. Snowfall also is welcomed by the ski industry and a myriad of other businesses that serve and supply skiers. Mild dry mountain summers accommodate outdoor sports and activities, but when high pressure areas push temperatures upward and gusty winds blow, California is vulnerable to wildfires that consume thousands of acres of brush and timber every year.

National forests of the Sierra Bioregion are the Plumas, Tahoe, Sierra, Eldorado, Stanislaus, Sequoia, Inyo, and Toiyabe. Major rivers include the American, Feather, Yuba, Cosumnes, Tuolumne, Merced, San Joaquin, Kern, Owens, Kings, Carson, Truckee, Walker, and

Stanislaus. Mono Lake east of Yosemite is famous for its peculiar tufa formations rising from the lake bed.

Plants, Wildlife

The Sierra Bioregion is rich in biodiversity, containing over half the plant species found in California and more than 400 of the state's terrestrial wildlife species, or about two-thirds of the birds and mammals and half the reptiles and amphibians. The variety of habitat types include annual grassland, blue oak savannah, chaparral, ponderosa pine, black oak woodland, mixed conifer, red fir, riparian, alpine meadow, Jeffrey pine, sagebrush, and bitter brush.

Animals that inhabit the Sierra Bioregion include lodgepole chipmunk, mountain beaver, California mountain king snake, black bear, wolverine, California big horn sheep, Pacific fisher, mule deer, and mountain lion. The California Golden Trout — the state fish — is native to the Southern Sierra. Birds include the northern goshawk, mountain chickadee, pine grosbeak, California spotted owl, mountain quail, willow flycatcher, bald eagle, and great grey owl.

For a complete list of the Sierra Bioregion's federal and state endangered, threatened and rare species, please refer to the chart at the end of this bioregional section.

CURRENT CONSERVATION INITIATIVES

*The Sierra Nevada Network is working to implement the research findings of the **Sierra Nevada Ecosystem Project** in order to broaden and deepen communication in the Sierra about ways to address the range of problems and threats to the growing region.*

The Sierra Nevada Ecosystem Project (SNEP), a 3-year study ordered by Congress, is the most comprehensive undertaking of its kind in California and perhaps the nation. Coordinated by Don Erman and the Wildlands Resources Center at the University of California, Davis, the report was prepared by some 125 scientists, agency staff, academics and consultants and consists of some 85 individual papers organized around a range of specific issues including the health of old growth forests, plant and animal species and habitats, water, and the economy.

After release of the SNEP report, it was apparent that Sierra communities needed a way to put its voluminous findings to good use. The University of California created the Sierra Nevada Network to distribute the information, promote public interest, knowledge, and participation in Sierra issues, and broaden and connect the Sierra community. The network also serves as a facilitator to assemble balanced and credible information from a variety of research sources and make it publicly available.

To broaden and deepen communication in the region, regular public forums have been proposed that would enable stakeholders to share ideas for ways to meet the region's needs. Network participants are working with Sierra organizations such as resource conservation districts, University of California Cooperative Extension, community colleges and state universities, the California Resources Agency, U.S. Department of the Interior, U.S. Department of Agriculture, Quincy Library Group, Sierra Business Council, and Sierra Alliance.

Among the many issues raised in the SNEP report is the need for beneficiaries of Sierra resources to reinvest in the watersheds of the mountain range. Much of California relies on the Sierras for its water supply but does not pay the costs of maintaining the high quality of rivers and streams. Measures to restore stream-flow patterns, reestablish native species, and relocate roads and campgrounds that contribute to erosion may be too costly to be borne solely by the Sierra Bioregion. The Regional Council of Rural Counties supports a reinvestment strategy for the Sierra that would have users of the resources help provide for restoration and improvement to safeguard and sustain the watershed.

The Sierra Nevada Network has an enormous opportunity and challenge to promote new conservation initiatives in the Sierra Nevada and implement the SNEP report's numerous strategies for improving the ecological health and sustainability of the region.

For more information contact: Sierra Nevada Network at (530) 542-4546.

*The **California Tahoe Conservancy** is an*

independent State agency within the Resources Agency of California. It was established to develop and implement programs through acquisitions and site improvements to improve water quality in Lake Tahoe, preserve the scenic beauty and recreational opportunities of the region, provide public access, preserve wildlife habitat areas, and manage and restore lands to protect the natural environment.

The California Tahoe Conservancy was established in its present form by State law in 1984 (Chapter 1239, Statutes of 1984). The Tahoe Conservancy's primary objectives are to protect the natural environment of the basin, with priority placed on preserving the exceptional clarity and quality of the waters of Lake Tahoe, increase public access and recreation opportunities for visitors to the lake, and preserve and enhance the broad diversity of wildlife habitat in the Tahoe Basin.

The Tahoe Conservancy plays a major role in the basinwide effort to restore the equilibrium between the natural and the human environment, and also between public and private uses at Lake Tahoe, through its land acquisition, site improvement, and management activities. To achieve these objectives, the Conservancy is implementing six major programs, involving both direct activities by the Conservancy and grants to other public agencies and to nonprofit organizations. These programs involve the acquisition of environmentally sensitive lands, grants for soil erosion control, land coverage transfer and mitigation, provision of public access and recreation opportunities, wildlife enhancement, and property management.

The Conservancy's highest priority program has been the acquisition of environmentally-sensitive parcels of land. The Conservancy has authorized the acquisition of over 4,880 parcels totaling more than 7,000 acres. These lands typically contain steep, erodible slopes or eroding areas, or are marsh, meadow or riparian areas needed to settle out sediment and unwanted nutrients before these get to the lake. The Conservancy's aim is to prevent disturbance of the soil and vegetation, and to restore the land and its plant life where necessary. This is one of the largest acquisition programs involving small individually-owned subdivided parcels ever undertaken by the State

for environmental protection purposes. Its focus is unique also in that the acquisitions are in already urbanized areas.

The Conservancy has also funded 65 erosion control projects through grants to local agencies. The goal of these projects is to reduce the sources of erosion, trap sediment, infiltrate runoff into the soil, and absorb nutrients before they can reach the lake and support unwanted algae growth. These projects involve the revegetation of nearly 110 acres of disturbed land; the construction of 63 miles of roadside drainage facilities, three acres of rock slope protection, and two miles of retaining walls; and the restoration of nearly 30 acres of severely degraded wetlands and meadows.

To help meet the need for greater public access and more recreational opportunities, the Conservancy is acquiring and improving land to provide new access opportunities, especially to lakefront areas and to other kinds of natural areas as well. It is also expanding facilities at existing sites, and is connecting public recreation facilities by means of trails, which has the added benefit of providing an alternative to automobile travel within the basin. The Conservancy has authorized 25 public access and recreation projects involving the acquisition of more than 350 acres of lands, including three-quarters of a mile of scarce lake and beach frontage. The projects will result in the construction of more than 150 parking spaces and other support facilities at existing recreational facilities, and the acquisition of rights-of-way or construction of some 28 miles of hiking, biking, and cross-country ski trails.

The Conservancy, which is not a regulatory agency, is governed by a seven-person board made up of representatives from the City of South Lake Tahoe, El Dorado County, and Placer County, as well as the Secretary for Resources, Director of the California Department of Finance, and two members appointed by the Legislature. In addition, a representative of the U.S. Forest Service sits with the board as a non-voting member.

The Lake Tahoe Acquisitions Bond Act of 1982 has been the primary funding source for the Conservancy. The Bond Act provides authority to issue \$85 million in general obligation bonds to fund acquisitions of undeveloped property

which meet the purposes of the bond program. The funds for projects have been totally allocated. Additional funding has been appropriated and expended for a variety of important projects in the Lake Tahoe Basin. The State General Fund is the principal source for the agency's administrative and project costs. Due to the State's fiscal situation, there is a need to find alternative funding sources for site improvement and restoration activities.

For more information contact: California Tahoe Conservancy at (530) 542-5580.

Tahoe Re-Green Project is a campaign by local, state, and federal firefighting agencies, nonprofit, and civic organizations to induce property owners to remove diseased, dead, and dying trees from 51,000 local lots and, if necessary, replant the lots with healthy seedlings to improve fire safety, native habitat, and biodiversity.

The Tahoe Re-Green campaign consists of nineteen government and private agencies, foresters, firefighters, land managers, water quality experts, environmentalists and others who have organized to address and reduce wildfire threats in the Tahoe Basin. The high fire risk is the result of a combination of factors but essentially results from the fact that approximately one third of the trees in the basin are dead or dying as a result of disease, competition, and drought. Tahoe Re-Green is seeking to reduce this high fire risk by eliminating brush in urban lots and in the lands that lie between urban and wild lands.

During the first year of the Tahoe Re-Green Project almost 300 lots in the urban or urban-wildland interface areas were cleared of debris and brush. Cutting and removing thousands of trees from privately and publicly owned parcels is a complex mission that requires public cooperation, economic incentives to hold down costs, and suitable ways to dispose of felled trees. Currently, state law requires property owners to clear flammable or combustible vegetation from 30 to 100 feet around homes adjoining mountains, forest, brush, or grasslands, but doesn't require removing trees. The law also doesn't apply to vacant lots, which are covered by local ordinances and other measures. Tree removal is expensive for

property owners who must bear the burden of the cost, which can range from several hundred dollars to \$1,000 or more per tree.

To assist property owners, the California Resources Agency is working with the State Water Resources Control Board on plans to make available \$5 million in low-interest loans from a revolving loan fund. Sites must be created to collect large numbers of trees, and markets found to sell trees for their highest value. Tahoe Re-Green is exploring with private industry the prospects for converting the trees into saw logs, pulp chips, or biomass, which uses forest vegetation to fuel cogeneration plants that produce electricity.

The entities sponsoring Tahoe Re-Green include the California Resources Agency, California Department of Forestry and Fire Protection, U.S. Forest Service, Lake Tahoe Regional Fire Chiefs Association, local fire protection districts, the Tahoe Regional Planning Agency, California Tahoe Conservancy, League to Save Lake Tahoe, California Department of Parks and Recreation, California State Board of Forestry, California Regional Water Quality Control Board- Lahontan Region, California Conservation Corps, Natural Resources Conservation Service, Tahoe Resource Conservation District, and Nevada Division of Forestry.

For more information contact: Tahoe Re-Green Project at (800) TAHOE GREEN.

The Tahoe Regional Planning Agency, the first bi-state regional environmental planning agency in the country, leads a cooperative effort to preserve, restore, and enhance the unique natural and human environment of the Lake Tahoe Region.

To guide their actions, the Tahoe Regional Planning Agency (TRPA) developed a Tahoe Environmental Improvement Plan (EIP), a 10-year \$906 million road map for attaining thresholds of water and air quality, soil conservation, vegetation, wildlife and fisheries, scenic resources, community design, recreation, and noise control. The EIP calls for a local, state, and federal partnership to develop and implement it and includes a number of regulations and other measures to control the environmental impacts of new development and

regulate, among other things, land use, density, rate of growth, land coverage, excavation, and scenic impacts. The regulations are designed to bring the Lake Tahoe Region into conformance with the threshold standards established for water quality, air quality, soil conservation, wildlife habitat, vegetation, noise, recreation, and scenic resources and were the strength of the plan in its early years. Every five years, TRPA conducts a comprehensive evaluation of the EIP to measure the progress made toward threshold attainment.

With the regulatory program in place, the emphasis of TRPA has shifted to implementation of the capital improvements program (CIP), a project-oriented investment program designed to repair the environmental damage done before the Regional Plan was adopted. TRPA has identified nearly \$500 million in capital improvements that must be made in order to achieve the environmental threshold standards. To date, federal, state, and local governments have invested nearly \$90 million in soil erosion control, storm water drainage, stream zone restoration, public transit, and other capital projects.

More recently, the private sector has become an active partner in the capital improvements program. Private property owners and public agencies are working together to plan capital investments which will result in economic benefits for the property owners, and environmental benefits for the entire Lake Tahoe Region. Whether funded publicly, privately, or by a partnership, capital improvements project construction will be TRPA's highest priority as it strives to fulfill its mission to "lead the cooperative effort to preserve, restore, and enhance the unique natural and human environment of the Lake Tahoe Region".

TRPA is also a leading partner in a comprehensive program to monitor water quality, air quality, and other threshold standard indicators. The monitoring program creates a stream of data that helps indicate where adjustments are needed in the capital improvements and regulatory programs. Support for the monitoring effort comes from the federal government, state water resources agencies, and research departments of state universities.

For more information contact: Tahoe Regional Planning Agency at (702) 588-4547.

Placer County Open Space Preservation Plan is a plan to address open space in Placer County, one of the fastest growing counties in California. Resident and businesses are attracted by the opportunity to live, work, and recreate in a place of such remarkable natural beauty. As the population continues to grow, however, Placer County risks losing the natural and scenic qualities which distinguish it from other developing regions of the state.

To meet this challenge, Placer County adopted a new general plan in 1994. The general plan contains a strong set of policies to preserve open space and natural resources. These policies recognize the importance of open space and natural resource lands to the citizens of the county for maintaining quality of life, recreation, public safety, agriculture, conserving natural resources and maintaining biological diversity.

The Sierra Business Council, an association of over 450 member businesses working to secure the economic and environmental health of the Sierra Nevada, began working with Placer County planning staff in 1997 to elevate the county's interest from preserving open space to undertaking a more ambitious plan to protect habitat through the Natural Community Conservation Planning (NCCP) program. In April of 1998, the Placer County Board of Supervisors voted to proceed with developing a long term open space and habitat conservation program.

The project will be developed on two simultaneous tracks. In the first track, the County will work with the cities and city and county residents to identify important open space lands for recreation, agriculture, floodplain protection, community edges and fire protection. The second track will involve a combined effort of city and county governments, state and local agencies, and private interests and will result in a NCCP for Placer County. This second track will address all of the plants, animals and natural features (e.g. wetlands and vernal pools) which are currently, or may in the future, be regulated by the state and federal endangered species acts and other state and

federal environmental laws.

The goal of the overall project is to develop an economically viable, implementation program which will enable residents of Placer County to maintain a high quality of life and preserve an abundance of diverse natural habitats while supporting the economic viability of the county and enhancing property values. The project will further the various open space and natural resources goals of the Placer County General Plan and associated general plans of the six cities in Placer County. Implementation will focus on achieving the following objectives:

- maintain a viable agricultural segment of the economy,
- conserve natural features necessary for access to a variety of outdoor recreation activities,
- retain important scenic and historic areas,
- preserve the diversity of plant and

animal communities,

- protect endangered and other special status plant and animal species,
- separate urban areas into distinct communities, and
- ensure public safety.

As the program continues to be developed, priority will be given to ensuring that the process involves all stakeholders and provides meaningful opportunities for public involvement from both unincorporated and incorporated area residents; the final program is scientifically sound, ensures the long-term conservation of important open spaces and natural communities, and includes a financing plan for immediate and ongoing implementation; and the effort receives the widespread support of Placer County residents.

For more information contact: Placer County Planning Department at (530) 889-7470; Sierra Business Council at (530) 582-4800.